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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,491	03/18/2005	Daniel Willem Elisabeth Schobben	NL 021003	5041

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P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER

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ART UNIT	PAPER NUMBER
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2615

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/528,491	SCHOBEN, DANIEL WILLEM ELISABETH	
	Examiner	Art Unit	
	Lun-See Lao	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37-CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2007.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 11-28-2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Introduction

1. This action is in response to the amendment filed on 01-24-2007. Claims 1-4 have been amended and claims 5-7 have been amended. Claims 1-4 are pending.

Specification

2. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Content of Specification

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.
- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) The Names Of The Parties To A Joint Research Agreement: See 37 CFR 1.71(g).
- (e) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.

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- (f) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
 - (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."
 - (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (g) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.
- (h) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (i) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.

- (j) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).
- (k) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).
- (l) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The claim limitation "A sound reproduction system comprising: an audio processor with

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a filter arranged for applying a head related transfer function to an input audio signal from an audio signal source, and yielding an output audio signal for a sound production means;

a first data source for providing first filter coefficients of a first head related transfer function over a first predetermined frequency range to the filter; and

a second data source for providing second filter coefficients of a second head related transfer function over a predetermined second frequency range, unequal to the first frequency range, to the filter for filtering the input audio signal yielding the output audio signal " was not supported in the further detail in the specification nor in any of the claim (see fig. 1 and specification page 2 line 18 to page 3 line 16). The specification does not teach that a first data source for providing first filter coefficients of a first head related transfer function over a first predetermined frequency range to the filter.

5. Claim 4 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claim limitation " A computer program for execution by a processor, describing a method of sound reproduction comprising the steps of:

obtaining coefficients of a first head related transfer over a first predetermined frequency range from a first data source;

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filtering an input audio signal from an audio signal source using said coefficients of the first head related transfer function to form an output audio signal;

obtaining coefficients of a second head related transfer over a second predetermined frequency range, different from said first predetermined frequency range, from a second data source; and

additionally filtering said input audio signal using said coefficients of the second head related transfer function thereby forming said output audio signal" was not supported in the further detail in the specification nor in any of the claim (see fig. 1 and specification page 2 line 18 to page 3 line 16). The specification does not teach that obtaining coefficients of a first head related transfer over a first predetermined frequency range from a first data source.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Chen (US PAT. 6,990,205).

Consider claim 1 Chen teaches a sound reproduction system comprising:

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an audio processor (such as, DSP) with a filter arranged for applying a head related transfer function to an input audio signal (see fig.1b, (10)) from an audio signal source, and yielding an output audio signal for a sound production means (speaker and see col. 5 line 44-62);

a first data source (such as, Efs, SCFs) for providing first filter coefficients of a first head related transfer function (Left HRTF) over a first predetermined frequency range (acoustic signals recorded by microphones) to the filter (col. 5 line 44-col. 6 line 63); and

a second data source (table 1) for providing second filter coefficients of a second head related transfer function (such as Right HRTF) over a predetermined second frequency range, unequal to the first frequency range, to the filter for filtering the input audio signal (10) yielding the output audio signal (speaker and see col. 9 line 56-col. 11 line 29).

Consider claims 2-3 Chen teaches that the of the characterized in that characterized in that said sound reproduction system further comprises:

a microphone (see col. 5 line 66-col. 6 line 14) for performing a sound measurement wherein the first data source (such as, Efs, SCFs)

comprises coefficient calculation means for calculating the first filter coefficients from the sound measurement (col. 5 line 44-col. 6 line 63); and

wherein the second data (such as, table 1) source comprises a memory (DSP) for storing data related to the second head related transfer function (see col. 9 line 56-col. 11 line 29); and the sound reproduction system characterized in that the second data source (such as table 1) comprises calculating means for calculating the second filter

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coefficients based on the data stored in the memory (DSP and see col. 9 line 56-col. 11 line 29).

Consider claim 4 Chen teaches that a computer program for execution by a processor, describing a method of sound reproduction comprising the steps of:

obtaining coefficients of a first head related transfer (see fig.1b (Left HRTF)) over a first predetermined frequency range from a first data source (Efs, SCFs and see col.5 line 44-col.6 line 63);

filtering an input audio signal (10) from an audio signal source using said coefficients of the first head related transfer function (Left HRTF) to form an output audio signal (speaker);

obtaining coefficients of a second head related transfer (Right HRTF) over a second predetermined frequency range, different from said first predetermined frequency range, from a second data source (table 1); and

additionally filtering said input audio signal (10) using said coefficients of the second head related transfer function (Right HRTF) thereby forming said output audio signal (speaker and see col. 9 line 56-col. 11 line 29).

Response to Arguments

8. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yamada (US PAT. 4,097,689) is cited to show other related sound reproduction system, program and data carrier.

10. Any response to this action should be mailed to:

Mail Stop ____ (explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Facsimile responses should be faxed to:

(571) 273-8300

Hand-delivered responses should be brought to:


Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao,Lun-See whose telephone number is (571) 272-7501. The examiner can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian, can be reached on (571) 272-7848.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Lao,Lun-See LLS
Patent Examiner
US Patent and Trademark Office
Knox
571-272-7501
Date 04-05-2007


VIVIAN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600